INDIVIDUAL FEEDBACK AND OBSERVING THE FEEDBACK OF OTHERS AS A BEHAVIOR MODIFICATION SKILL TRAINING TECHNIQUE

An abstract of a Thesis by
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February 1981
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The problem. Research in training paraprofessional staff to perform behavior modification skills has shown practical training procedures to be most effective. Practical training usually consists of variations of modeling and role playing techniques accompanied by feedback. In such research, feedback appears to be a key component but its parameters and its effects independent of other training techniques have not been carefully analyzed. The purposes of this study are to isolate feedback as a classroom skill training technique, examine some of its parameters, evaluate its efficiency, and develop an efficient classroom training procedure.

Procedure. Practical training sessions occurred in which 19 Mental Health Technician trainees were exposed to an audio-visual replay procedure. This replay was combined with one of four schedules of individual feedback and observation of others' feedback for each trainee. The effect of this training was observed by assessing trainee skill performance and training procedure efficiency.

Findings. Training effected an immediate improvement in skill performance. No differences were found between the four different schedules of individual feedback. Also, individual feedback was found to have no effect beyond the effect of observation of others' feedback. Efficiency measures indicate that a skill improvement can be obtained by the application of this training procedure for a short period of time.

Conclusion. Viewing an audio-visual display of someone performing a skill, can quickly improve an individual's performance of that skill, when the display is supplemented with specific information that pinpoints correct and incorrect skill performances within the display. Observing specific information about someone else's performance is as effective a training technique as receiving such information on one's own performance.

Recommendations. This study shows an efficient training technique in which many individuals can benefit from observing the individual feedback of a few. Future research, to develop this technique to its maximum efficiency, can investigate the importance of skill demonstration and specification as opposed to the importance of the audio-visual medium.

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A Thesis

Presented to

The School of Graduate Studies

Drake University

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

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by

Carol J. Frisch

February 1981

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CHAPTER I

INTRODUCTION

The literature indicates that many approaches have been used to train behavior modifiers. Didactic procedures have been shown to be effective in teaching knowledge but have not proved to be very effective in training behavior modification skills (Braukmann, Fixsen, Kirigin, Phillips, Phillips, & Wolf, 1975; Gardner, 1972; Kazdin, 1975; Kazdin & Moyer, 1976). Real or simulated practice of the skill accompanied by appropriate feedback has been shown to be a much more effective skill training procedure (Braukmann et al., 1975; Gardner, 1972; Kazdin, 1975; Kazdin & Moyer, 1976; Martin, 1972; Paul, McInnis, & Mariotto, 1973). In fact, practical training without any supplementary didactic training has been shown to be effective in training such skill performance (Gardner, 1972).

Successful practical training procedures usually consist of variations and/or combinations of the basic techniques of modeling and role playing accompanied by some type of feedback (Braukmann et al., 1975; Bricker, Morgan, & Grabowski, 1972; Gardner, 1972, 1976, pp. 28-31; Gladstone & Sherman, 1975; Martin, 1972). Feedback appears to be a key component in such procedures as suggested by Wodarski and Bagarozzi (1979, p. 21):

> A sharpening of behavioral skills requires that the behavioral clinician secure feedback about his performance. Thus, every practicum experience should have the organizational mechanisms to enable students to secure feedback data, i.e., through video and audio tapes, behavioral observations, and data provided by inventories measuring worker behavior, which will aid him in assessing his success in mastering those skills required for qualitative clinical practice.

Although feedback appears frequently in this literature, its effects, independent of other training techniques, and its parameters have not been carefully analyzed.

Loeber and Wiseman (1975) indicate that training research should target an analysis of the techniques necessary for effectiveness and efficiency and the necessary parameters of these techniques. The necessity for research to specify the variables that make feedback effective is indicated by Welsch, Ludwig, Radiker, and Krapfl (1973) and Ford (1980) indicates that a "myriad of procedural variations" of feedback are possible. To organize the current "cumbersome and disorganized aggregation of (feedback) methods and procedures" and provide a classification system for future research in the area, Ford proposes the following dimensions along which feedback procedures may be analyzed: (a) individual feedback - group feedback, (b) private feedback - public feedback, (c) personal feedback - mechanical feedback, (d) immediate feedback - delayed feedback, and (e) schedule of feedback.

The purposes of the following study were to isolate feedback as a classroom skill training technique, examine

some of its parameters, evaluate its efficiency, and develop an efficient classroom training procedure.

CHAPTER II

METHOD

Subjects

Nineteen Mental Health Technician Trainees, employed by a residential training facility for the adult developmentally disabled, served as subjects. These trainees were newly hired employees enrolled in the facility's inservice training program. Trainee age range is 18 to 42 years, educational range is the 11th year of high school to two years of college, and three trainees are male and 16 trainees are female.

Setting

Inservice training occurs during the first four weeks (152 hours) of employment before the trainees are assigned to a residential living unit and thus before they are allowed to work with the residents of the facility.

One section of inservice training is designated to training in behavior modification (24 hours). Behavior modification training is divided into two segments. First a didactic segment occurs in which the basic principles of behavior are introduced and then applied to the therapeutic modification of the behavior of developmentally disabled individuals. Then a practical segment occurs in which basic behavior modification training skills are learned by the

trainees through practice in a simulated situation.

This study occurred during the practical segment of behavior modification training which was composed of a series of daily practicum sessions.

Procedure

Description of Experimental Practicum Session

Trainees attended a 60 to 90 minute practicum session each day throughout the study. A practicum session consisted of two parts:

Part one. The session began with an audio-visual replay procedure with or without training (IV). This procedure consisted of a select number of previously video-taped trials being replayed to all trainees simultaneously as a class.

Part two. Immediately following the replay procedure, skill practice occurred. Trainees practiced the target skills (DV) without experimental intervention and a block of six trials per trainee were recorded on video-tape. These video-taped trials provided DV data and the replay material for the next practicum session.

Selection of trials for replay. Trials for replay were selected from the blocks of trials video-taped during the previous session. One trial per block was selected for replay for designated trainees. The trial exhibiting the largest number of opportunities for responses and the

most correct responses was selected.

Dependent Variables

Two classes of dependent variables (DV) were observed: (a) trainee skill performance and (b) training procedure efficiency.

Trainee skill performance targets three specific behavior modification skills and each skill is composed of a set of responses (for component response sets, see Appendix A). These skills are:

Obtaining attention (Att). Trainee delivery of attention attracting stimuli to client.

Delivering a cue (Cue). Trainee delivery of discriminative stimuli to client.

Delivering a consequence (Cons). Trainee delivery of reinforcement for correct client response and punishment for incorrect client response.

Training procedure efficiency targets the level of skill performance output attained per amount of training input.

Independent Variable

Training is composed of two factors: (a) individual feedback and (b) observation of others' feedback. Specific individual feedback alone (not paired with any other antecedents or consequences, e.g., performance criteria, social reinforcement) is the independent variable (IV) of principle

interest. This study was designed not only to observe the effect of individual feedback by itself on skill performance, but also to compare the effect of four different schedules of this variable. The purpose for this component of the study is based on the assumption that, the less individual feedback (the lower the schedule of feedback) necessary per trainee, the less time consuming and thus the more efficient the training procedure.

Feedback was delivered to the individual within the context of the class (in the presence of all trainees). Thus, observation of other's feedback occurs concommitantly with the occurrence of individual feedback due to the class procedure.

Description of implementation of training. During the audio-visual replay procedure, a trial would be displayed on an audio-visual monitor in front of all trainees in the class. The display was then stopped and feedback was delivered. Feedback consisted of a joint discussion between the instructor and the class, pinpointing correct and incorrect component responses. The instructor followed a very specific feedback guide (see Appendix B) in directing this discussion. For example, the instructor would ask the class, "Did trainee look at client's face while delivering cue?" and the class would respond with the instructor providing the necessary corrections. The trial was replayed as necessary, with pauses at critical points within the trial,

to reach an agreement between the instructor and the class as to the correctness of the responses of interest. When completed, the next trial would be displayed and the same training implemented. This procedure was repeated until all selected trials were replayed. At this point, training for the session was complete.

Experimental Design

The effects of the independent variables were investigated via a combined within-subject/group and between subjects/groups experimental design (Cuvo & Riva, 1980, p. 318).

The effect of training was assessed via a within-subject/group multiple baseline design across behaviors (Hall, Cristler, Cranston, & Tucker, 1970, p. 253; Hersen & Barlow, 1976, p. 228). The three behavior modification performance skill dependent variables represent the three behaviors across which the independent variable of training was applied at different points in time. Thus, there were two experimental conditions occurring across the three behaviors to investigate the effect of training:

Baseline. All factors occurring during the experimental sessions occurred during baseline except the training, i.e., audio-visual replay procedure and skill practice with block of trials video-taped per trainee.

Training. To change conditions, training was added to the audio-visual replay procedure during the experimental

session. Individual feedback and observation of others' feedback occurred concommitantly with this change of conditions. All other factors remained the same. Training was applied to one behavior modification performance skill at a time, according to the structure of the multiple baseline design. Training was applied first to the Att skill, second to the Cue skill, and third to the Cons skill.

To compare the effects of different schedules of individual feedback, the trainees were divided into four experimental groups. Each group received only one schedule of individual feedback throughout the study. Thus, the trainees of each group received a schedule of individual feedback that was different from that of another group, while the factor of observation of others' feedback remained constant between all groups. These groups are identified as follows:

100% group. Trainees received individual feedback during 100% of sessions.

67% group. Trainees received individual feedback during 67% of sessions.

33% group. Trainees received individual feedback during 33% of sessions.

0% group. Trainees received individual feedback during 0% of sessions (no individual feedback occurred).

These schedules of individual feedback were respected in the baseline as well as the training condition. During

baseline, each trainee observed his performance during audio-visual replay, according to the same schedule as was to apply to that trainee during training, but without the occurrence of feedback.

Observation, Recording and Reliability

Dependent Variables

Trainee skill performance. All trainee responses were recorded on video-tape. Observation and recording of data occurred between and following the experimental sessions in which all trainee trials were replayed for the observers.

During an opportunity for the occurrence of a behavior modification skill, an opportunity exists for the occurrence of a set of correct and incorrect responses. For example, when a trainee initiates the Cue skill, varying opportunities follow (dependent upon the client's response/nonresponse), in which the trainee can correctly or incorrectly emit each component response of the Cue skill. Thus, data was recorded in terms of a correct or incorrect performance of each specific component response per opportunity for each skill.

This recorded data was then interpreted as a numerical value indicating correct responses per opportunity. Each skill was given the value of 1.0 and each component response of that skill has a value that is a portion of that 1.0. When the value of all component responses is summed,

it will equal 1.0, the value of the skill. For each component response emitted correctly, the value of the response was scored. For each component response emitted incorrectly, or necessary responses that were not emitted, a zero was scored. The sum of the scores indicates the level of trainee performance of the specific skill as a numerical value representing correct responses per opportunity (0 = no correct responses, 1.0 = all correct responses).

Reliability. Reliability checks on the skill performance DV were administered for six trials during each experimental session. Thus, reliability was taken for all sessions, including both baseline and training conditions, for a total of 72 checks. Trainees were randomly chosen for reliability checks and each trainee was chosen at least once.

Accuracy reliability scores were computed by using the formula of # agreements / # agreements + disagreements x 100 on both occurrences and nonoccurrences of responses. The percent agreement obtained (see Appendix C) was 100% for 43 checks, between 90% and 99% for 25 checks, and below 90% for only four checks (87%, 86%, 82%, and 56%). The mean agreement per session ranged from 92% to 100% with a grand mean of 97%.

Training procedure efficiency. A record of the number and length of training sessions and the allocation of session

time was maintained throughout the study. This information provided data to compare amount of training input to level of trainee performance output.

Independent Variable

All feedback delivery sessions were audio-taped. These audio-tapes were replayed for the observers to obtain data to check the validity of the IV in two ways:

1. Trainee skill component responses identified by the instructor as correct and incorrect, were recorded for each occurrence of feedback. This data was then checked for accuracy by comparison with the DV data for the same trial. An agreement was assessed between the occurrence of correct/incorrect trainee responses and the feedback delivered to the trainee in reference to those responses.

2. Feedback was also checked with respect to the delivery of feedback alone as the IV. Data was recorded to reflect any occurrence of unplanned variables that accompanied feedback delivery, e.g., social reinforcement, social punishment, performance criteria, etc.

CHAPTER III

RESULTS

Independent Variable Validity

Seven, eight or nine ($\overline{X}$ = 8.2) feedback trials occurred during each implementation of training. All feedback was in 100% agreement with the DV data for each respective feedback trial. This agreement reflects a high accuracy of feedback delivered.

During observation of the IV data, it was noted that as the number of training sessions for a skill increased, the specificity of the feedback for that skill decreased. Fewer skill component responses were identified during feedback or feedback would occur as a summarization of the component responses. As the number of training sessions increased, the overall trainee skill performance level maintained or continued to increase. Thus, this gradual decrease in specificity of feedback does not appear to have a negative effect of decreasing the level of skill performance, although it could have decreased the rate of performance improvement.

Independent variable observations revealed only a minimal occurrence of unplanned variables accompanying the delivery of feedback. Two instances of instructor delivered praise were noted to occur in conjunction with feedback and

occasionally, trainees, who were observing others' feedback, would offer praising comments during the feedback procedure. No other unplanned variables were observed to accompany the delivery of feedback.

During observation of the IV data, it was also noted that at times, not all trainees were paying attention to the training. This observation was also noted in the instructor's anecdotes. Thus, the feedback and/or observation of others' feedback received by some trainees may have been less than planned in the experimental procedure.

Dependent Variable Measures

Trainee Skill Performance

Figure 1 shows the mean correct responses per opportunity for the performance of Att, Cue, and Cons skills for all trainees combined. The immediate improvement in skill performance, at the same point in time that training is applied across the three skills, shows the experimental control of the IV. Table 1 displays the grand means for baseline and training conditions across the three skills for all trainees combined and for each group.

Observe Figure 1 in conjunction with the column for All Trainees in Table 1. Inspection of the three baselines indicates different operant levels of performance for each skill which creates a differential opportunity for an amount of change once training is applied. Att skill baseline

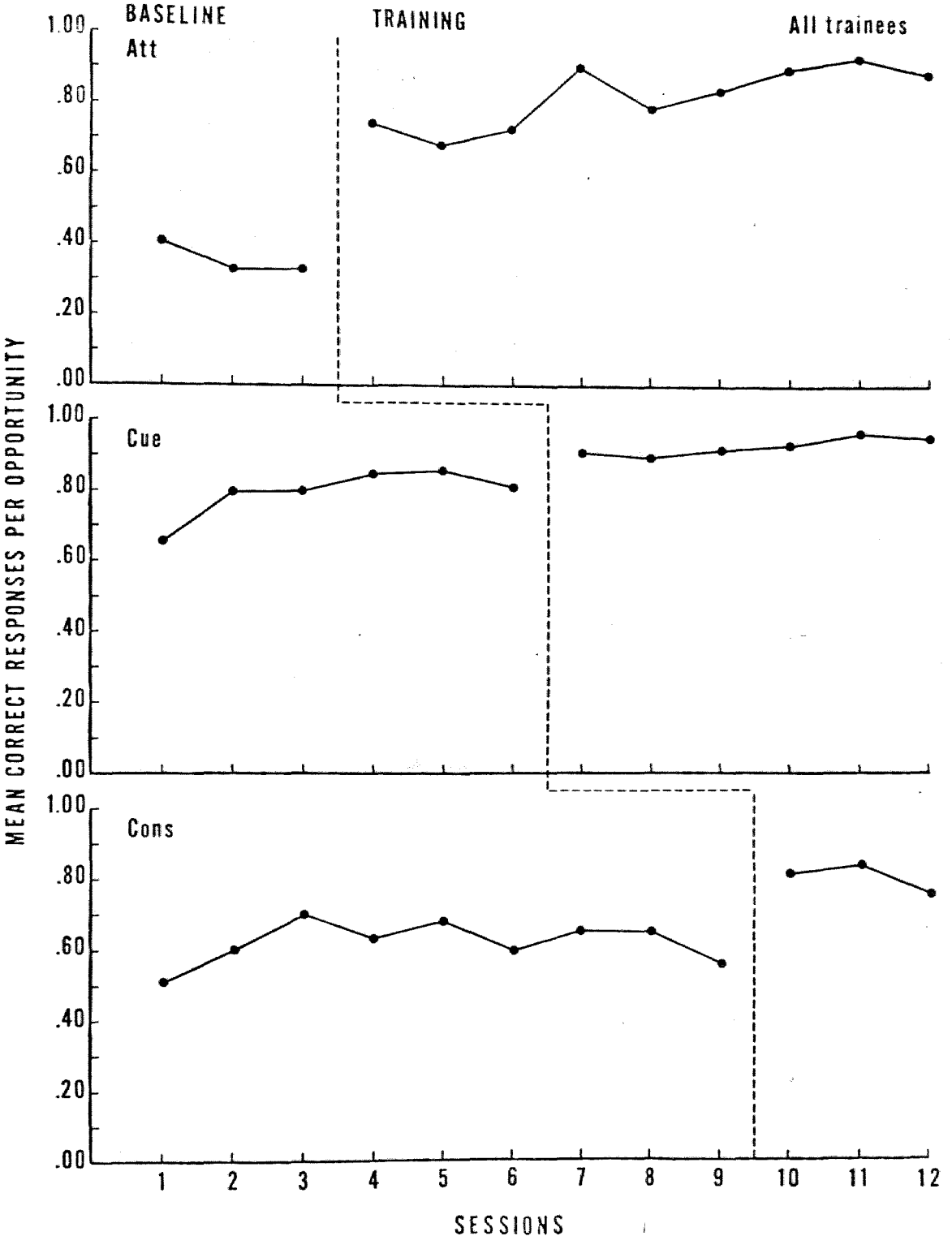

Figure 1. Mean correct responses per opportunity for Att, Cue and Cons skills as a function of baseline and training conditions for all trainees combined.

Table 1

Grand Means for Baseline and Training Conditions Across Att, Cue and Cons Skills for all Trainees Combined and for each Group

	All Trainees	Groups 0%	33%	67%	100%
Att					
Baseline	.35	.40	.27	.28	.44
Training	.83	.86	.84	.84	.78
Cue					
Baseline	.80	.79	.76	.79	.84
Training	.93	.93	.93	.93	.94
Cons					
Baseline	.62	.68	.64	.62	.56
Training	.80	.74	.90	.78	.79

performance indicates a low level of responding with a grand mean of .35 correct responses per opportunity. A large improvement was maintained throughout training with a grand mean of .83 correct responses per opportunity. Cue baseline shows an overall high level of performance of this skill before training, indicating a grand mean of .80. Some improvement between sessions one and two is noted and a stable effect occurs between sessions two through six. Training is implemented to the Cue skill in session seven and an immediate improvement of .10 is noted. A small and gradual increase occurs throughout the rest of the training, resulting in a grand mean of .93. Due to the high baseline level, the opportunity for improvement in skill performance is limited, thus decreasing the opportunity for the IV to have a demonstrable effect. Also, an overall look at the gradually increasing trend throughout baseline and training conditions for the Cue skill implies the possibility of the occurrence of a practice effect. The Cons skill shows a baseline level of responding represented by a grand mean of .62. Training is implemented in session 10 with corresponding improvement in skill performance and a grand mean of .80. A ceiling of .95 occurred for Cons skill performance because training was applied to only 95% of its component responses.

The effect of training across the three skills as indicated in Figure 1, occurs in a similar manner when each

group is inspected individually, in Figures 2, 3, 4 and 5 as follows: (a) A low baseline for Att skill and a large change when training is applied. (b) A high baseline for the Cue skill, a small change with the application of training, and an overall trend suggesting a practice effect. (c) A moderate level of baseline performance in Cons skill with a moderate improvement upon the implementation of training. These same changes are also observed in Table 1 for each group. Note the close similarity of grand means for both conditions, between each group and in comparison to the grand means for all trainees combined.

Kazdin (1973, pp. 519-520) states that a difficulty in the use of the multiple baseline design is the possibility of the occurrence of interdependent effects between the baselines. Visual inspection of the figures for each group indicates the possibility of this effect in some of the skill performances. When training was applied to the Att skill (session four), small increases in the Cue skill were noted for the 0%, 67% and 100% groups, although these increases were not larger than .10. When training was applied to the Cue skill, an increase of approximately .05 occurred in the Att skill for the 0% group and increases of approximately .25 occurred in the Att skill for 33%, 67% and 100% groups. When training was applied to the Cons skill, a small increase of less than .10 occurs in the Att skill for the 0% group and increases of approximately .25

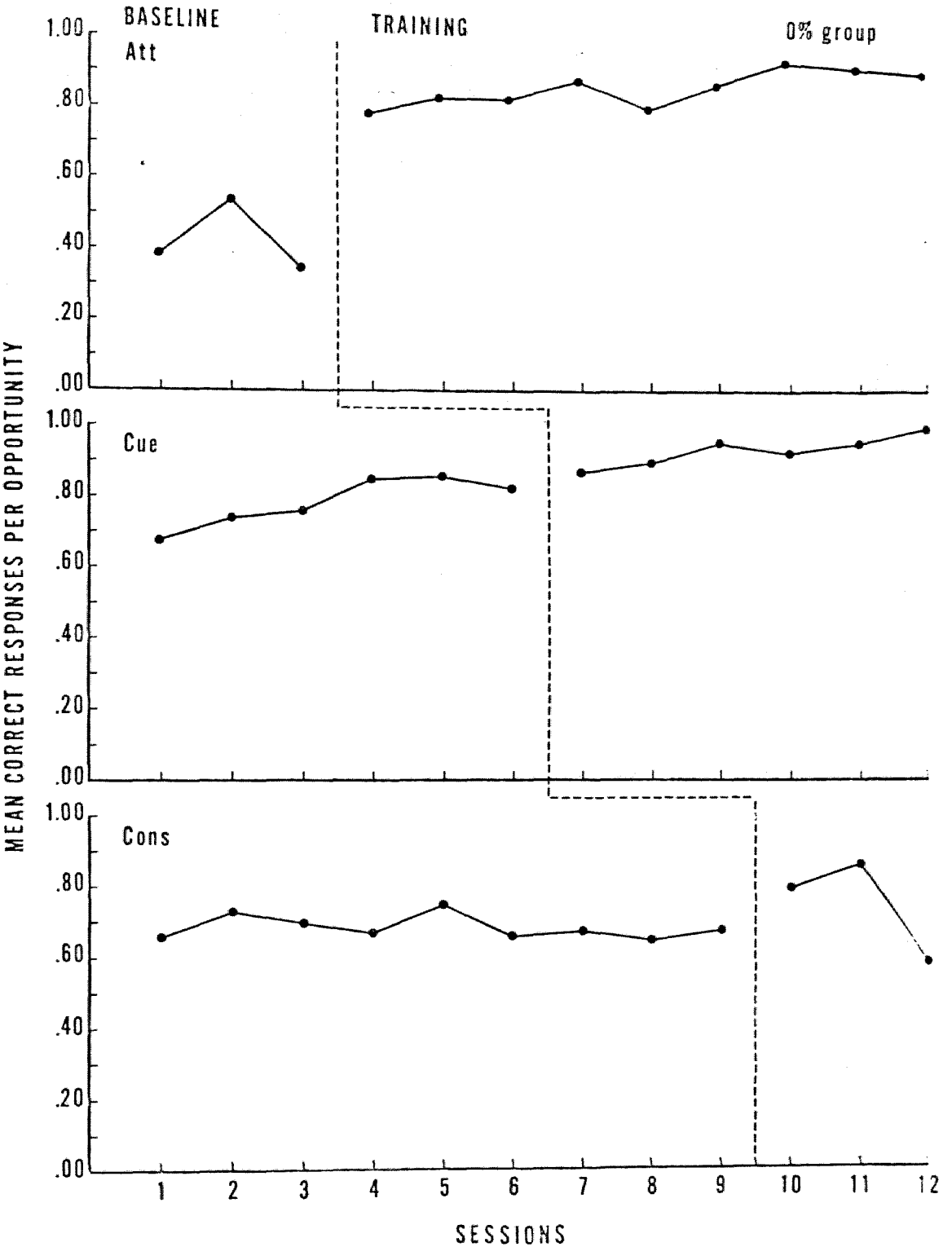

Figure 2. Mean correct responses per opportunity for Att, Cue and Cons skills as a function of baseline and training conditions for trainees in the 0% individual feedback group.

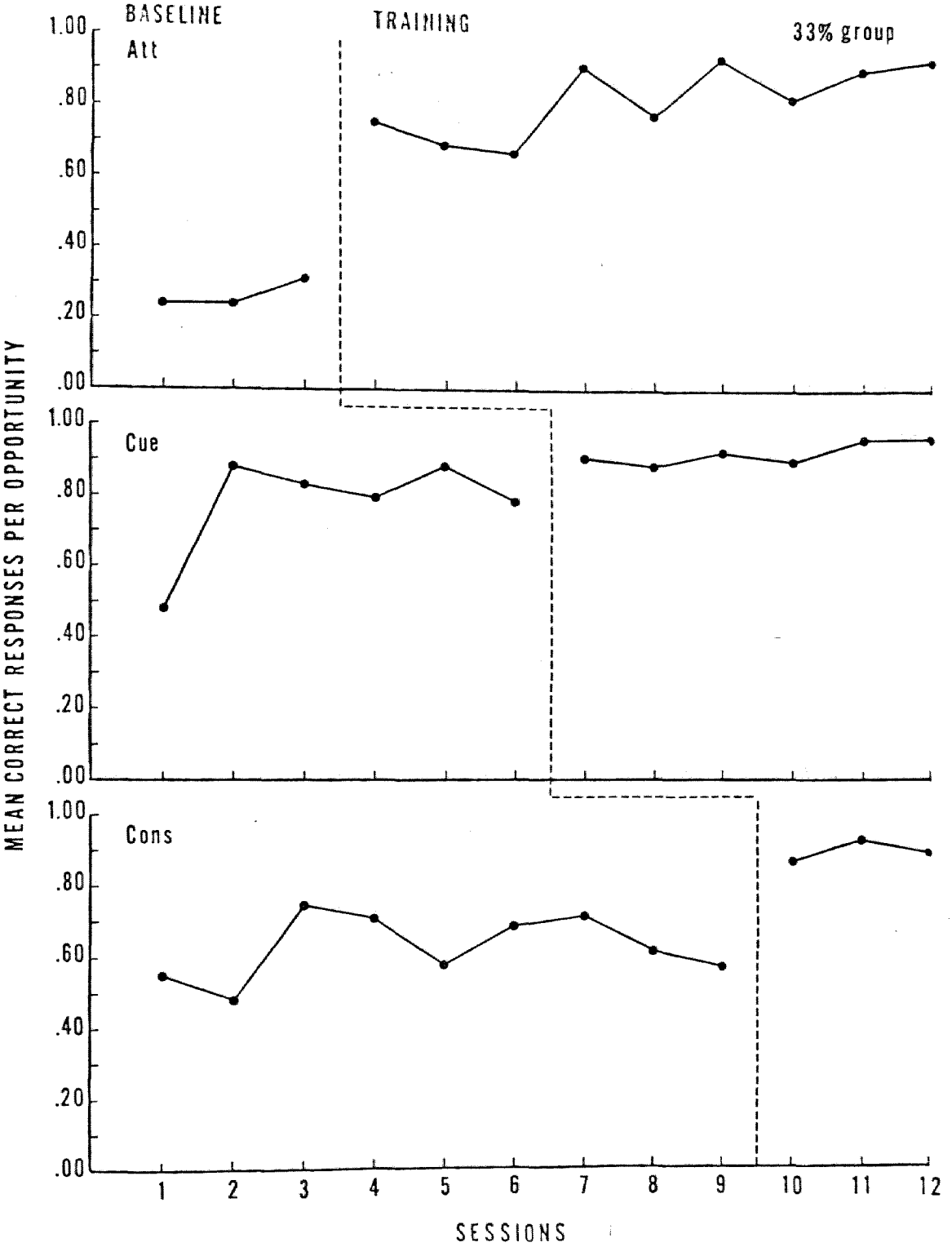

Figure 3. Mean correct responses per opportunity for Att, Cue and Cons skills as a function of baseline and training conditions for trainees in the 33% individual feedback group.

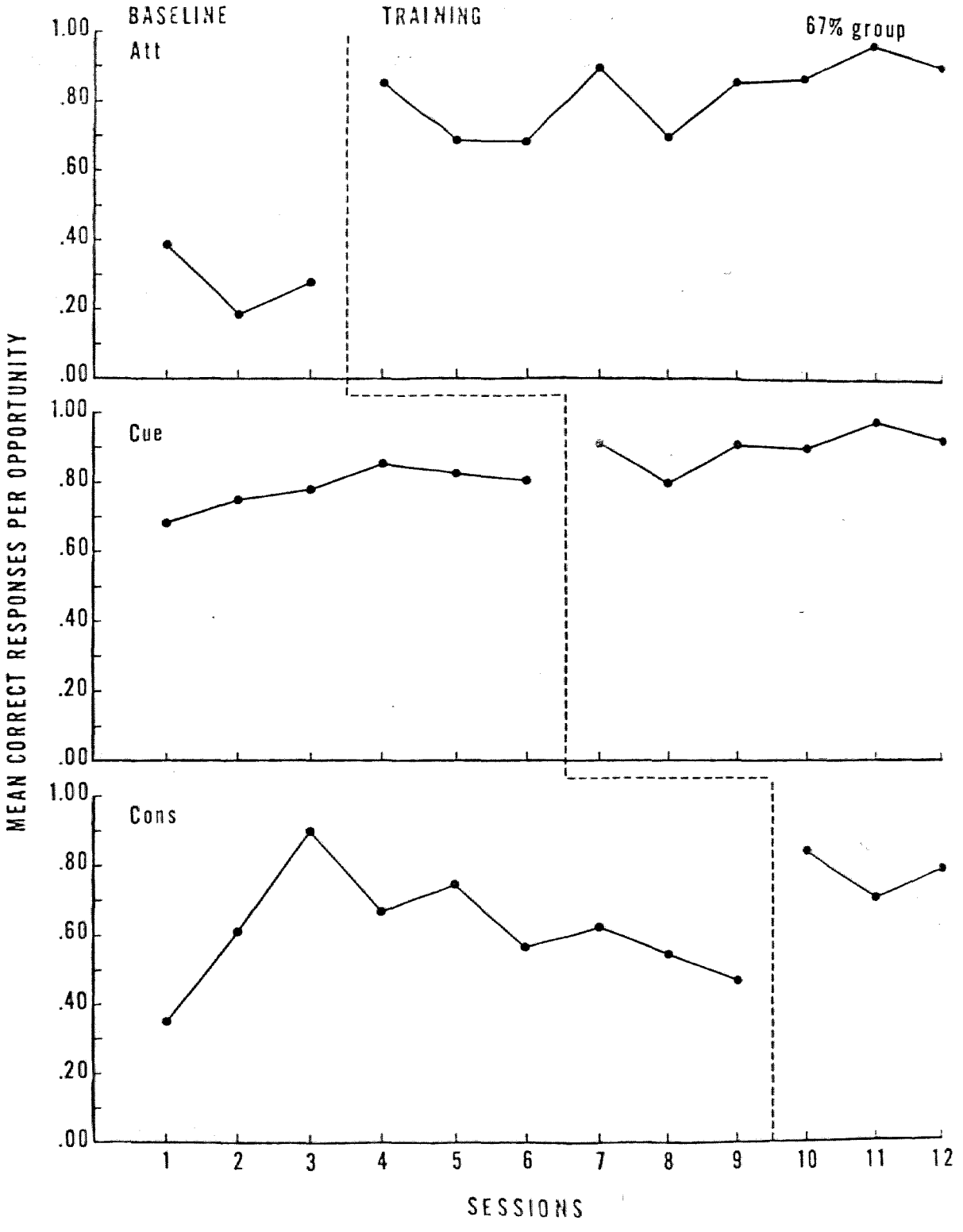

Figure 4. Mean correct responses per opportunity for Att, Cue and Cons skills as a function of baseline and training conditions for trainees in the 67% individual feedback group.

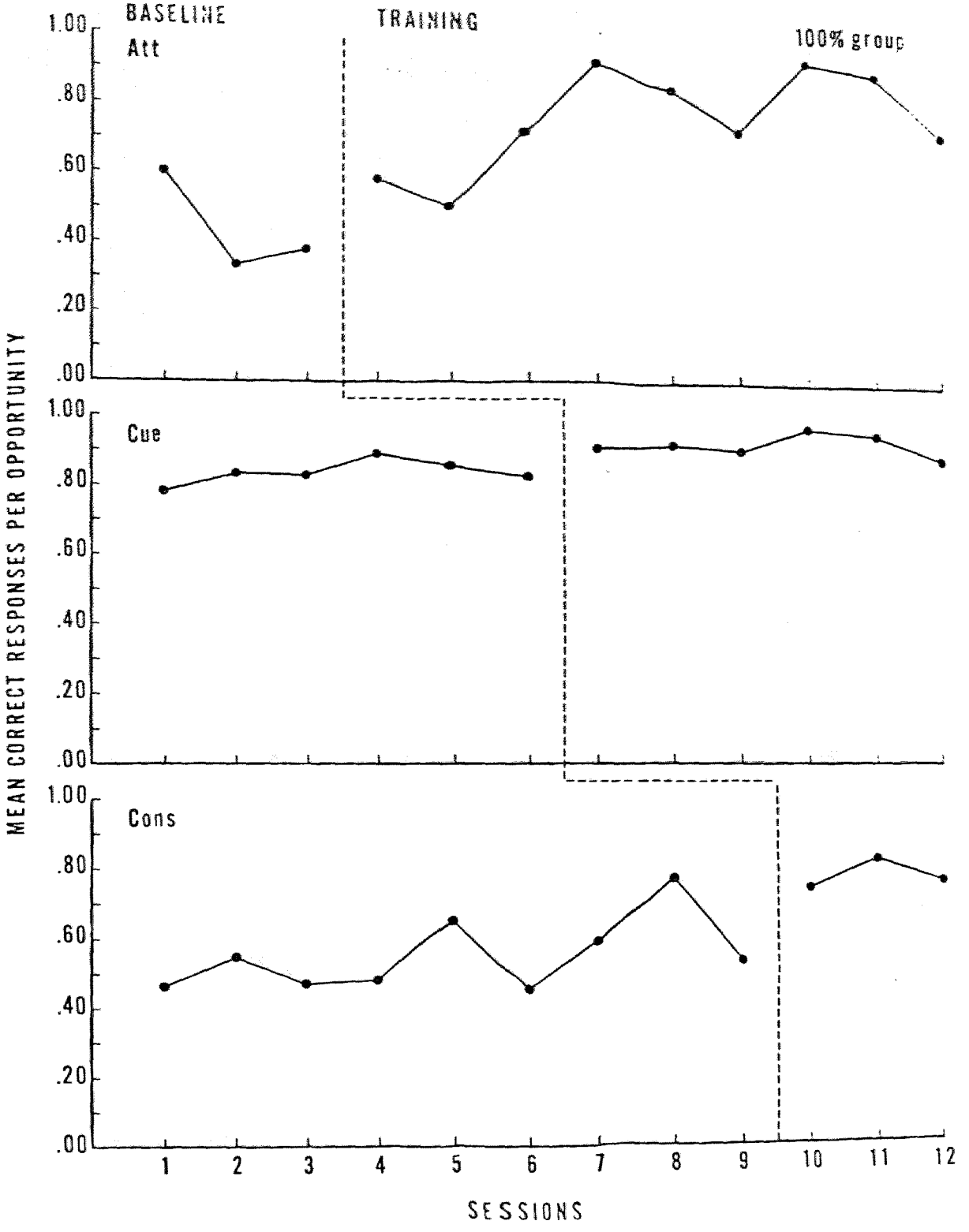

Figure 5. Mean correct responses per opportunity for Att, Cue and Cons skills as a function of baseline and training conditions for trainees in the 100% individual feedback group.

in the Att skill and .10 in the Cue skill occur for the 100% group.

Overall, upon the implementation of training, similar changes occurred in all four groups, in similar amounts and at similar levels. Figure 6 superimposes the data for the four groups to observe these similarities. Each group represents a different schedule of individual feedback. Because no outstanding differences in data between groups were observed, no differences in the effect of different schedules of individual feedback appeared to occur. Note that the same effect was observed with no individual feedback as was observed with partial to complete feedback schedules. This implies that the change in skill performance was not due to individual feedback. Thus, observation of others' feedback, which accompanied individual feedback during training, appears to be the factor responsible for the improvement in skill performance.

Training Procedure Efficiency

Nine training sessions occurred during the study. Session length was one hour for four sessions and one and one-half hours for five sessions, resulting in a total session time of 11½ hours. Sessions were divided into two parts: (a) training (application of feedback during audio-visual replay) and (b) skill practice (with no experimental intervention). A mean of 20 minutes of training occurred

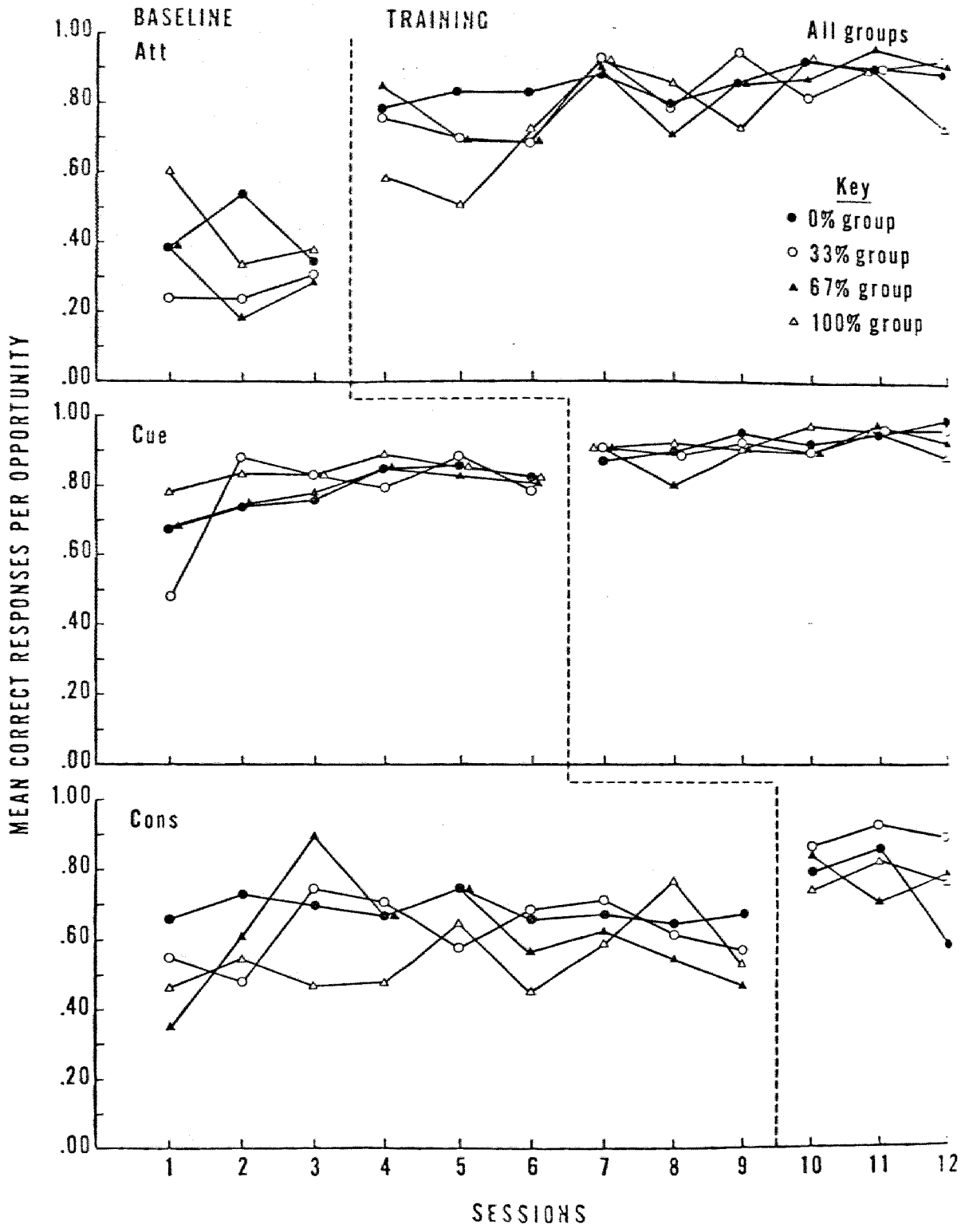

Figure 6. Mean correct responses per opportunity for Att, Cue and Cons skills as a function of baseline and training conditions for trainees in the 0%, 33%, 67% and 100% individual feedback groups.

during each session and the remaining session time was allocated to skill practice. Thus total training time for all trainees across all sessions was only three hours.

This three hours of t5aining was allocated to each skill and resulted in skill competency levels for all trainees combined, as follows: (a) Training occurred during nine sessions for the Att skill resulting in a grand mean of 83% correct responses per opportunity or a 48% improvement over baseline. (b) Training occurred during six sessions for the Cue skill resulting in a grand mean of 93% correct responses per opportunity or a 13% improvement over baseline. (c) Training occurred during three sessions for the Cons skill resulting in a grand mean of 80% correct responses per opportunity or an 18% improvement over baseline.

Summary

1. Data observations indicated that the validity of the training procedure was high, although the amount and schedule of feedback received and/or observed by individual trainees may have varied slightly from the planned experimental procedure.

2. The skill performance measures indicate that training effected an immediate improvement in trainee skill performance. During training, four different schedules of individual feedback were applied with no differences

between schedules observed. The fact that the same effect was observed in the no individual feedback schedule as was in the partial and complete feedback schedules, indicates that individual feedback was not the responsible factor for the change in the skill performance. Observation of others' feedback also occurred during training which appears to be the significant factor for the change in skill performance.

3. Training procedure efficiency measures indicate that a significant improvement in skill performance can be obtained as the result of the application of this training procedure for a short period of time.

CHAPTER IV

DISCUSSION

Two major implications result from this study:

1. Viewing an audio-visual display of someone performing a skill, can quickly improve an individual's performance of that skill, when the display is supplemented with specific information that pinpoints correct and incorrect skill performances within the display.

2. Observing specific information about someone else's performance is as effective a training technique as receiving such information (feedback) on one's own performance.

When it is necessary to train many individuals simultaneously, individual feedback becomes a time consuming and thus costly, if not impossible, procedure. This study indicates that many individuals can benefit from observing the individual feedback of a few. The less individual feedback necessary, the less instructor preparation and class training time needed, and thus the more efficient the procedure. In the current study, a mean of eight individual feedback trials occurred during each training session while all 19 trainees in the class attained a similar benefit. The training procedure would have been much less efficient if it were necessary to deliver individual feedback to each trainee in the class.

The feedback investigated in this study is organized in Ford's classification system as follows:

Individual feedback. The feedback delivered was based upon the performance of an individual.

Public feedback. Feedback was delivered to the individual in the presence of all trainees.

Personal and mechanical feedback. The feedback was personal in that the performance information was mediated by the instructor and mechanical in the medium of the audio-visual replay.

Immediate and delayed feedback. Feedback was immediate in relation to the occurrence of the behavior in the audio-visual replay and delayed in that the behavior in the replay occurred during the previous session.

Schedule of feedback. Four schedules of individual feedback were investigated with no differences in effect found between the schedules.

Two other categories can be added to this classification system:

Specific feedback - general feedback. Feedback can be specific and detailed (e.g., describing discrete behaviors performed) or it can be general (e.g., indicating percent correct performance level) in relation to the behaviors performed. The feedback delivered in this study was very specific and discrete as to the behaviors performed.

Isolated feedback - paired feedback. Feedback can

occur alone or it can be paired with various antecedents and consequences (e.g., performance criteria, reinforcement, punishment). The feedback in the current study was isolated.

The information generated about individual feedback in this study must be interpreted with the fact in mind that individual feedback did not show any effect beyond that shown by observing others' feedback.

Future research to develop this skill training technique to its maximum efficiency, can follow many avenues:

1. A common factor that all trainees always received, regardless of whether they were receiving individual feedback or were observing others' feedback, was the demonstration and specification of correct component responses to be performed and incorrect component responses not to be performed. Is this the key component of this training procedure?

2. In the current study, both correct and incorrect performances were specified during training (with a higher ratio of correct to incorrect). Does specification of only correct responses or only incorrect responses provide more efficient learning, or is there some most efficient ratio of correct to incorrect instances for specification?

3. Several questions arise about the audio-visual medium. (a) In the current study the individual in the audio-visual display was always someone that all the trainees knew (a classmate). Would the same effect be observed if

the individual in the display was someone that the trainees did not know? (b) Can feedback be narrated within the audio-visual display as opposed to instructor mediated? (c) Can a previously prepared standard audio-visual display be used, thus eliminating the need to video-tape trainee performance? Or, is there an expectancy effect on performance when trainees expect their performance to be video-taped and replayed? (d) Would the same effect be realized with an in vivo skill display as with the audio-visual skill display?

In summary, this study did not generate all the information on individual feedback as planned but, it did develop a procedure, to train many people simultaneously, that is equivalent in effect to and more efficient than individual feedback.

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APPENDIX A

Obtaining Attention
(component response set)

Opportunity:
Trainee begins trial.
Trainee behaviors:
1. Trainee first looks at client's face.
2. Trainee states client's name:
   a. Trainee states appropriate name.
   b. Trainee uses appropriate voice volume.*
3. Trainee looks at client's face when stating client's name.

Opportunity:
Client does not attend to trainee following initial trainee statement of client's name.
Trainee behaviors:
1. Trainee waits at least two seconds following initial statement of client's name before repeating name.
2. Trainee repeats client's name:
   a. Trainee states appropriate name.
   b. Trainee uses appropriate voice volume.*
3. Trainee looks at client's face when repeating client's name.

Opportunity:
Client does not attend to trainee following repeat trainee statement of client's name.
Trainee behaviors:
1. Trainee waits at least two seconds following repeat statement of client's name before repeating client's name again.
2. Trainee repeats client's name:
   a. Trainee states appropriate name.
   b. Trainee uses appropriate voice volume.*
3. Trainee looks at client's face when repeating client's name.
4. Trainee uses other means to attract client's attention.*

*see Definitions

Delivering a Cue
(component response set)

Opportunity:
Trainee obtains client attention.*
Trainee behaviors:
1. Trainee delivers cue to client:
   a. Cue is consistent.*
   b. Cue is of sufficient perceivability.*
   c. If cue is verbal statement, trainee uses appropriate emphasis on key words.
2. Trainee looks at client's face when delivering cue to client.

Opportunity:
Client was not attending during first cue delivery or, following cue delivery, client becomes distracted from trainee/task before client responds.
Trainee behaviors:
1. Trainee obtains client attention before repeating cue.
2. Trainee repeats cue delivery to client:
   a. Cue is consistent.*
   b. Cue is of sufficient perceivability.*
   c. If cue is verbal statement, trainee uses appropriate emphasis on key words.
3. Trainee looks at client's face when delivering cue to client.

Opportunity:
Client does not become distracted but also does not respond following cue delivery.
Trainee behaviors:
1. Trainee waits at least seven seconds, following cue delivery, for client response (before repeating cue or delivering prompt).
2. Trainee repeats cue delivery to client:
   a. Cue is consistent.*
   b. Cue is sufficient perceivability.*
   c. If cue is verbal statement, trainee uses appropriate emphasis on key words.
3. Trainee looks at client's face when delivering cue to client.

*see Definitions

Delivering a Consequence
(component response set)

Opportunity:
Client completes response.
Trainee behaviors:
1. Trainee waits to consequate until client completes response.
2. Trainee consequates response within two seconds following response completion.
3. Trainee looks at client when delivering consequence.

Opportunity:
Client completes independent correct or prompted correct response.
Trainee behaviors:
1. Trainee delivers reinforcement to client:
    a. Trainee begins reinforcement with praise word(s).
    b. Praise is enthusiastic.
    c. Trainee uses appropriate voice volume.*
    d. Trainee uses appropriate facial expression.*
    e. Trainee concurrently delivers tangible reinforcement (if applicable).

Opportunity:
Client completes incorrect response.
Trainee behaviors:
1. Trainee communicates incorrectness of response to client:
    a. Trainee states "No" to client.
    b. Trainee uses stern tone of voice.
    c. Trainee uses appropriate voice volume.*
    d. Trainee uses appropriate facial expression.*
    e. Trainee delivers feedback to client as to correct response after trainee states "No."

*see Definitions

*Definitions

Client attention. Client is oriented toward trainee and has eye contact with trainee or on the task.

Trainee uses appropriate voice volume. Voice volume is of sufficient loudness for client to hear and of sufficient loudness for observer to hear clearly when replayed in videotape.

Trainee uses other means to attract client's attention. Trainee makes other attracting noise, e.g., trainee knocks on table, trainee touches client, trainee physically prompts client attention (trainee's hand moves client's chin so that eye contact is possible).

Cue is consistent. Cue (verbal statement or gesture) is exactly the same as cue used in previous trial(s); or cue is repetition of key word; or cue is appropriately faded cue.

Cue is of sufficient perceivability. If cue is verbal statement, appropriate voice volume* is used. If cue is gestural, gesture is of appropriate size to be perceived by client (appropriately faded gesture may be quite small).

Trainee uses appropriate facial expression. Following correct response, trainee displays pleased facial expression, e.g., smile. Following incorrect response, trainee displays displeased facial expression, e.g., no smile.

APPENDIX B

Feedback Guide

Obtaining Attention:
Did trainee begin trial by first looking at client's face?
Did trainee then state client's name?
For each trainee statement of client's name:
  Did trainee state appropriate name?
  Did trainee state name loud enough for client to hear?
  Did trainee look at client's face when stating name?
Did client attend following statement of name? (If yes, go to Cueing; if no, continue to repeats.)
Did trainee repeat client's name as necessary?
Did trainee wait at least two seconds between each repeat?
Did trainee use other attention attracting means on third and following repeats?

Delivering a Cue:
Did trainee have client's attention* before delivering cue?
Did trainee deliver cue to client?
For each trainee delivery of cue to client:
  Is cue consistent?*
  If cue is verbal statement, is cue loud enough for client to hear?
  If cue is gesture, is cue of sufficient size for client to see?
  Did trainee appropriately emphasize key words of cue?
  Did trainee look at client's face while delivering cue?
Did client respond following cue? (If yes, go to Consequating; if no, continue to repeats.)
Did trainee repeat cue as necessary (see below)?
Was client not attending during cue delivery or did client become distracted following cue?
  Did trainee then (re)obtain client attention first and then repeat cue?
Was client still attending but did not respond?
  Did trainee then wait seven seconds for client response following cue and then repeat cue?

Delivering a Consequence:
Did trainee deliver a consequence following client response completion?
Did trainee wait to consequate until client completed response?
Did trainee consequate response within two seconds of response completion?
Did trainee look at client when delivering consequence?
Did client deliver correct or incorrect response?

orrect response:
Did trainee deliver reinforcement to client?
Did trainee begin reinforcement with praise?
Was the praise enthusiastic?
Was the praise loud enough for client to hear?
Did trainee use appropriate facial expression?*
Did trainee also deliver tangible reinforcement (if applicable)?

Incorrect response:
Did trainee omit reinforcement?
Did trainee communicate incorrectness of response to client?
Did trainee state "No" to client?
Did trainee use stern tone of voice?
Did trainee state "No" loud enough for client to hear?
Did trainee use appropriate facial expression?*
Did trainee deliver feedback to client as to correct Response after "No"?

*see Definitions (in Appendix A)

APPENDIX C

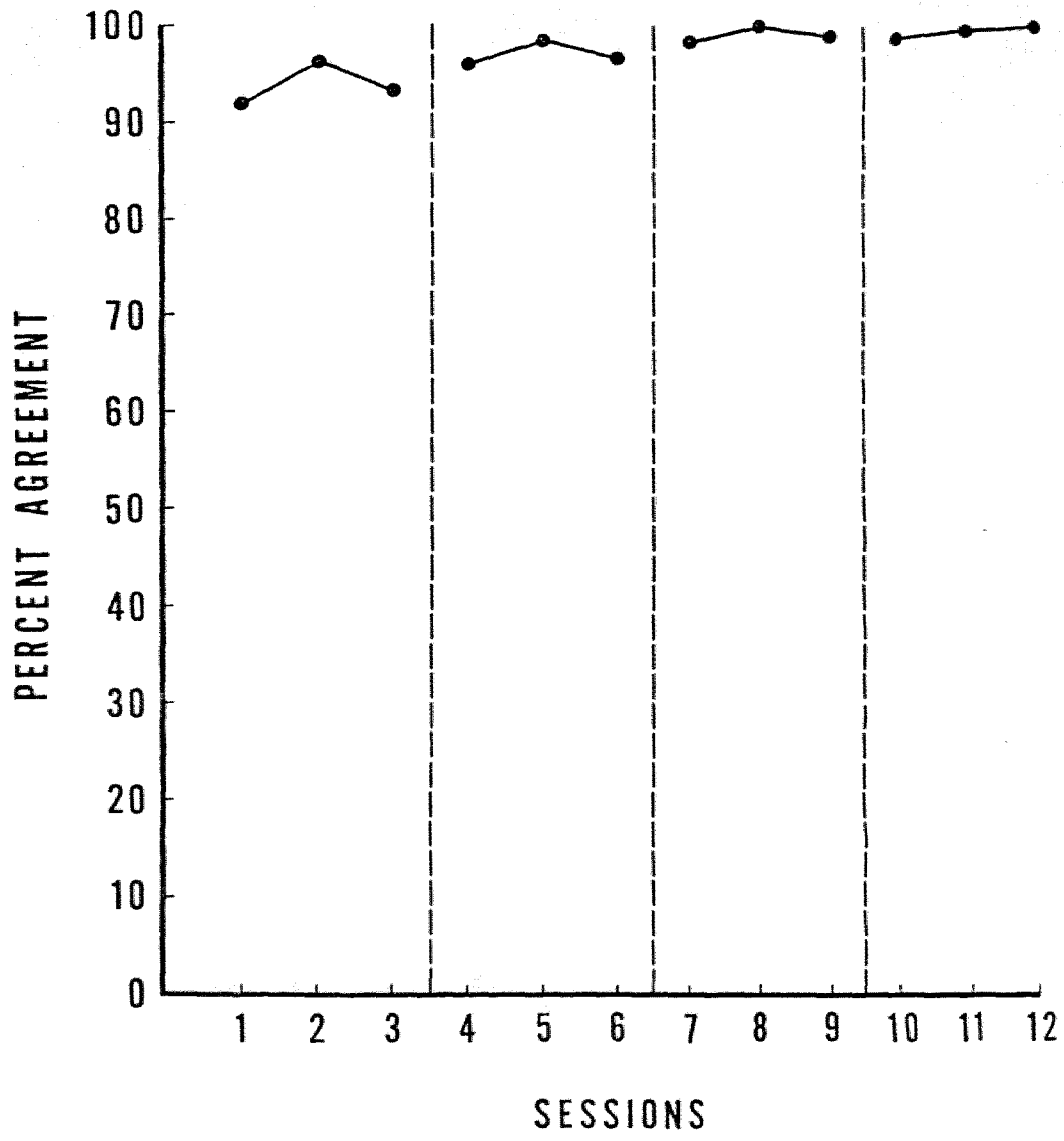

Figure 7. Percent observer agreement on occurrence and nonoccurrence of all dependent variable measures across all conditions.